Data Wrangling Part Two: Joins

Evan Fields

IAP 2015

January 7, 2015

Meal	Food		Food	Rating
first breakfast	pancake	-	ice cream	delicious
second breakfast	arugula		arugula	fine
lunch	cookies		pancake	delicious
dinner	ice cream		cookies	sublime
	Meal	Food	Rating	

Meal	Food		Food	Rating
first breakfast	pancake		ice cream	delicious
second breakfast lunch dinner	arugula cookies ice cream		arugula pancake cookies	fine delicious sublime
	Meal	Food	Rating	

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first breakfast	pancake		ice cream	delicious
second breakfast	arugula		arugula	fine
lunch	cookies		pancake	delicious
dinner	ice cream		cookies	sublime
	Meal	Food	Rating	

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first breakfast	pancake	ice	cream	delicious
second breakfast	arugula	a	rugula	fine
lunch	cookies	p	ancake	delicious
dinner	ice cream	С	ookies	sublime

Meal	Food	Rating
first breakfast	pancake	delicious

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first breakfast	pancake	ice cream	delicious
second breakfast lunch	arugula cookies	arugula pancake	fine delicious
dinner	ice cream	cookies	sublime

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lunch	cookies	•	pancake	delicious
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lunch	cookies		pancake	deliciou
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lunch	cookies	ŗ	ancake	delicio
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first breakfast	pancake	ice crear	n delicious
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lunch	cookies	pancake	e delicious
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first breakfast	pancake	ice cream
second breakfast	arugula	arugula
lunch	cookies	pancake
dinner	ice cream	cookies

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first breakfast	pancake	delicious
second breakfast	arugula	fine

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first breakfast	pancake	ice crea	m delicious
second breakfast	arugula	arugula	a fine
lunch	cookies	pancak	e delicious
dinner	ice cream	cookie	s sublime

Meal	Food	Rating
first breakfast	pancake	delicious
second breakfast	arugula	fine
lunch	cookies	sublime

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first breakfast	pancake	ice cream	delicious
second breakfast	arugula	arugula	fine
lunch	cookies	pancake	delicious
dinner	ice cream	cookies	sublime

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first breakfast	pancake	delicious
second breakfast	arugula	fine
lunch	cookies	sublime
dinner	ice cream	delicious

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first breakfast	pancake	ice crean	n delicious
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lunch	cookies	pancake	delicious
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Meal	Food	Rating
first breakfast	pancake	delicious
second breakfast	arugula	fine
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Ī	first breakfast	pancake	ice	cream	delicious
	second breakfast	arugula	arı	ıgula	fine
	lunch	cookies	par	ncake	delicious
	dinner	ice cream	CO	okies	sublime

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second breakfast	arugula		arugula	fine
lunch	cookies		pancake	delicious
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second breakfast	arugula	fine
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Match on multiple columns

Airport	Day	# flights
ATL	5	2000
BOS	13	1400
LAX	13	1800
ORD	7	1000

Match on multiple columns

Airport	Day	# flights
ATL	5	2000
BOS	13	1400
LAX	13	1800
ORD	7	1000

Airport	Day	Weather
BOS	23	sunny
ATL	5	overcast
LGA	13	snow
ORD	7	rainy

Match on multiple columns

Airport	Day	# flights
ATL	5	2000
BOS	13	1400
LAX	13	1800
ORD	7	1000

Airport	Day	Weather
BOS	23	sunny
ATL	5	overcast
LGA	13	snow
ORD	7	rainy

Airport	Day	# flights	weather
ATL	5	2000	overcast
ORD	7	1000	rainy

Other joins: left outer join

Name	Home	
Ned Stark	Winterfell	
Cersei Lannister	King's Landing	
Varys	King's Landing	

Other joins: left outer join

Name	Home	Name	Allegiance
Ned Stark	Winterfell	Ned Stark	Stark
Cersei Lannister	King's Landing	Cersei Lannister	Lannister
Varys	King's Landing	Jon Snow	Night's Watch

Other joins: left outer join

Name	Home	Name	Allegiance
Ned Stark	Winterfell	Ned Stark	Stark
Cersei Lannister	King's Landing	Cersei Lannister	Lannister
Varys	King's Landing	Jon Snow	Night's Watch

Name	Home	Allegiance
Ned Stark	Winterfell	Stark
Cersei Lannister	King's Landing	Lannister
Varys	King's Landing	NA

Other joins: right outer join

Name	Home	Name	Allegiance
Ned Stark	Winterfell	Ned Stark	Stark
Cersei Lannister	King's Landing	Cersei Lannister	Lannister
Varys	King's Landing	Jon Snow	Night's Watch

Name	Home	Allegiance
Ned Stark	Winterfell	Stark
Cersei Lannister	King's Landing	Lannister
Jon Snow	NA	Night's Watch

Other joins: full outer join

Name	Home	Name	Allegiance
Ned Stark	Winterfell	Ned Stark	Stark
Cersei Lannister	King's Landing	Cersei Lannister	Lannister
Varys	King's Landing	Jon Snow	Night's Watch

Name	Home	Allegiance
Ned Stark	Winterfell	Stark
Cersei Lannister	King's Landing	Lannister
Varys	King's Landing	NA
Jon Snow	NA	Night's Watch

SQL

SQL (Structured Query Languague) is a common language for interacting with databases.

- Not a general purpose language does CRUD (create, read, update, and delete data tables)
- SQL statements are easily human readable
- SQL is in widespread use